Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application: Listing of Claims:

Claim 1-10. (Cancelled)

Claim 11 (Currently Amended): A process for preparing heterocyclic fluoroalkenyl sulfone and sulfoxide compounds of formulas (I) and (II)

Het
$$\mathbb{I}$$
 \mathbb{F} \mathbb{I} \mathbb{F} \mathbb{I} \mathbb{F} $\mathbb{F$

where

 ${\ensuremath{\mbox{R}}}^1$ is hydrogen or fluorine, and

Het is a heterocycle selected from the group consisting of

where

R² is hydrogen, halogen, C₁-C₂-alkyl, or C₁-C₄-haloalkyl,
R³ is hydrogen or halogen; or is optionally halogen-,
methyl-, ethyl-, n- or i-propyl-, n-, i-, s-, or t-butyl, methoxy-, ethoxy-, n- or i-propoxy-, or n-, i-, S-, or
t-butoxy-substituted C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄alkylthio, C₁-C₄-alkylsulfinyl, C₁-C₄-alkylsulfonyl, C₁-C₄alkoxycarbonyl, C₁-C₄alkoxy-C₁-C₄-alkyl, C₁-C₄-alkylthio-C₁C₄-alkyl, carboxyl, C₁-C₄-alkylaminocarbonyl, C₃-C₆cycloalkylaminocarbonyl, C₁-C₄-dialkylaminocarbonyl, C₂-C₄alkenyl, C₂-C₄-alkenylthio, C₂-C₄-alkenylsulfinyl, or C₂C₄-alkenylsulfonyl,

- R is C_1-C_8 -alkyl, C_2-C_6 -alkenyl, C_1-C_4 -haloalkyl, C_1-C_4 -alkoxy- C_1-C_4 -alkyl, C_1-C_4 -alkylthio- C_1-C_4 -alkyl, or C_3-C_8 -cycloalkyl; or is optionally halogen-, C_1-C_4 -alkyl-, C_1-C_4 -alkoxy-, C_1-C_4 -alkylthio-, or C_1-C_4 -haloalkyl-substituted phenyl or benzyl,
- p is 1, 2, or 3,
- X is oxygen or sulfur, and
- is methylene that is optionally singly or doubly, identically or differently, substituted with optionally halogen-, C₁-C₄-alkoxy-, C₁-C₄-alkylthio-, C₁-C₄-haloalkcxy-, or C₁-C₄-haloalkylthio-substituted C₁-C₄-alkyl, C₂-C₄-alkenyl, or C₂-C₄-alkynyl; or is phenyl that is optionally singly to triply, identically or differently, substituted with halogen, cyano, nitro, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-alkylthio, C₁-C₄-haloalkyl, C₁-C₄ haloalkoxy, or C₁-C₄-haloalkylthio,

comprising allowing a compound of formula (III)

where \mbox{R}^1 and Het are each as defined for formula (I), to react with a salt of peroxomonosulfuric acid $(H_2 SO_5)$,

optionally in the presence of a reaction assistant and optionally in the presence of a diluent.

Claim 12. (Previously Presented): A process for preparing compounds of formula (I) according to Claim 11 wherein a compound of formula (II) according to Claim 11 is allowed to react with a salt of peroxomonosulfuric acid (H_2SO_5) , optionally in the presence of a reaction assistant and optionally in the presence of a diluent.

Claim 13. (Previously Presented): A process according to Claim 12 carried out at a pH of from 6 to 10.

Claim 14. (Previously Presented) A process for preparing compounds of formula (II) according to Claim 11 wherein a compound of formula (III) according to Claim 11 is allowed to react with a salt of peroxomonosulfuric acid (H_2SO_5) , optionally in the presence of a reaction assistant and optionally in the presence of a diluent.

Claim 15. (Previously Presented) A process according to Claim 14 carried out at a pH of from 1 to 3.

Claim 16. (Previously Presented) A process according to Claim 11 in which the salt of peroxomonosulfuric acid is potassium hydrogenperoxomonosulfate (2 KHSO $_5$ • KHSO4 • K_2SO_4 (5:3:2:2)).

Claim 17. (Previously Presented) A process according to Claim 11 carried out at a temperature of from - 20°C to 150°C.

Claim 18. (Previously Presented): A process according to Claim 11 in which

R¹ is fluorine,

Het is a heterocycle selected from the group consisting of

R² is hydrogen, fluorine, or chlorine,

is hydrogen, fluorine, or chlorine; or is optionally fluorine-, chlorine-, methyl-, ethyl-, n- or i-propyl-, n-, i-, S-, or t-butyl-, methoxy-, ethoxy-, n- or i-propoxy-, n-, i-, S-, or t-butoxy-substituted methyl, ethyl, n- or i-propyl, n-, i-, S-, or t-butyl, methoxy, ethoxy, n- or i-propoxy, n-, i-, S-, or t-butoxy,

methylthio, ethylthio, nor i-propylthio, n-, i-, S-, or t-butylthio, methylsulfinyl, ethylsulfinyl, methylsulfonyl, ethylsulfonyl, methoxycarbonyl, ethoxycarbonyl, n- or i-propoxycarbonyl, n-, i-, S-, or t-butoxycarbonyl, methoxymethyl, methoxyethyl, ethoxymethyl, ethoxyethyl, methylthiomethyl, methylthioethyl, ethylthiomethyl, ethylthioethyl, carboxyl, methylaminocarbonyl, ethylaminocarbonyl, n- or i-propylaminocarbonyl, cyclopropylaminocarbonyl, cyclobutylaminocarbonyl, cyclopentylaminocarbonyl, cyclohexylaminocarbonyl, dimethylaminocarbonyl, diethylaminocarbonyl, ethenyl, propenyl, or butenyl, R4 is methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, tert-butyl, n-pentyl, cyclopropyl, cyclopentyl, cyclohexyl, 2-chloroethyl, 2,2,3,3,3-pentafluoropropyl, 2,2,2-trifluoroethyl, 3-bromopropyl, 2-methoxyethyl, 2ethoxyethyl, 2-methylthioethyl, allyl, or 2-butenyl; or is optionally singly or doubly, identically or differently, fluorine-, chlorine-, bromine-, methyl-, ethyl-, isopropyl-, trifluoromethyl-, methoxy-, or methylthio-substituted phenyl or benzyl,

- P is 1 or 2,
- X is oxygen, and

is methylene that is optionally singly or doubly, identically or differently, substituted with methyl or ethyl; or is phenyl that is optionally singly to triply, identically or differently, substituted with fluorine, chlorine, methyl, methoxy, trifluoromethyl, cyano, or nitro.

Claim 19 (Previously Presented): A process according to Claim 11 in which Het is a heterocycle selected from the group consisting of

$$R^{3}$$
 S (A) and R^{3} O (B)

 R^2 is hydrogen, and

 $\ensuremath{\mbox{R}^3}$ is hydrogen, fluorine, or chlorine.

Claim 20 (Previously Presented): A process according to Claim 11 in which

$$\mathbb{R}^2$$
 \mathbb{R}^3
 \mathbb{R}^3
 \mathbb{R}^3
 \mathbb{R}^3
 \mathbb{R}^3
 \mathbb{R}^3
 \mathbb{R}^3

 \mathbb{R}^2 is hydrogen, and \mathbb{R}^3 is chlorine.